April 21, 1964 C. E. SCHERMERHORN 3,129,894

COMBINED NOZZLE AND GUARD FOR FAUCET SPOUTS

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FIG 1

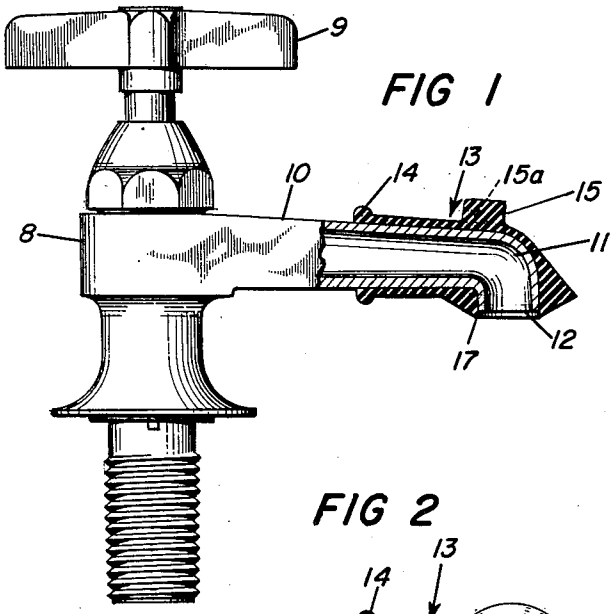



FIG 3

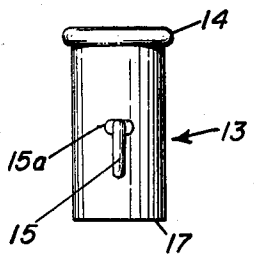



FIG 4

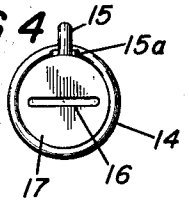



FIG 2

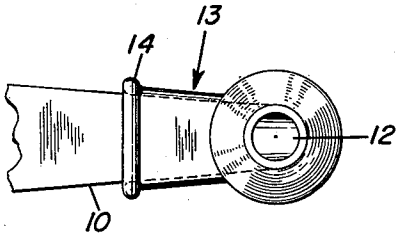



FIG 5

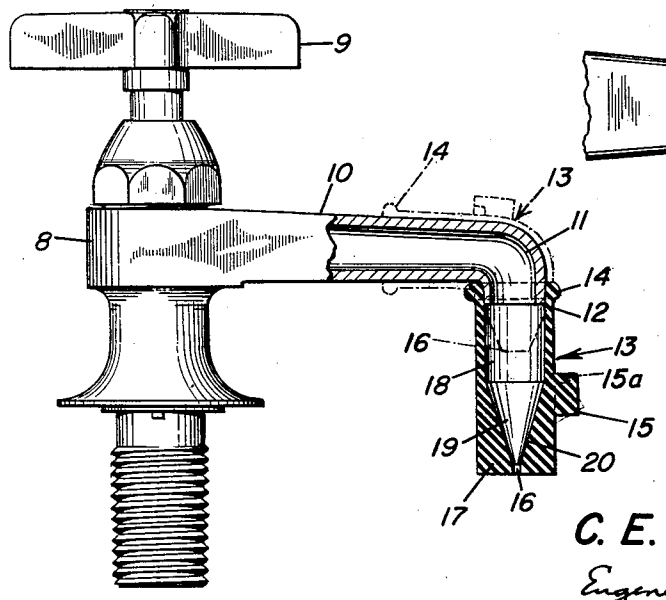
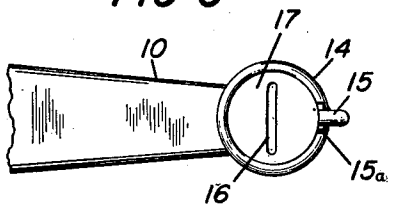



FIG 6




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COMBINED NOZZLE AND GUARD FOR FAUCET SPOUTS

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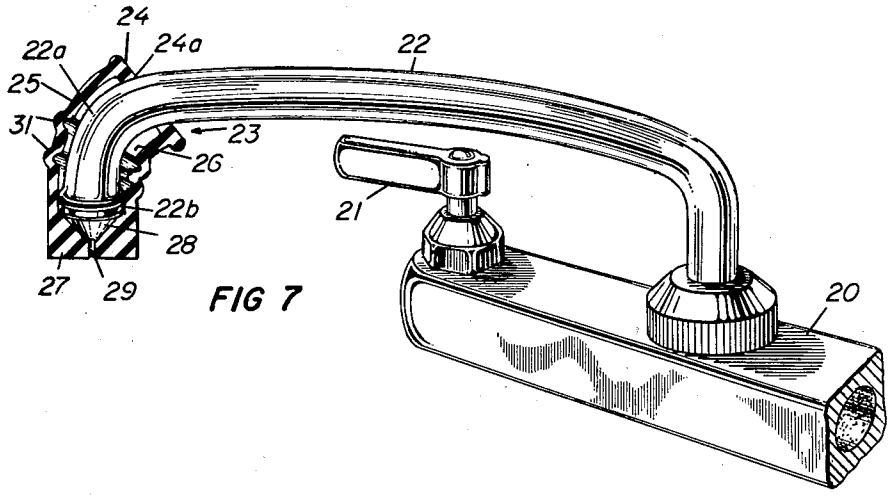



FIG 7

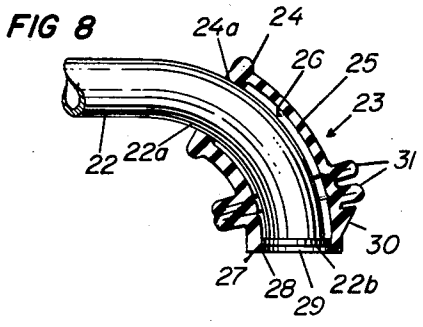



FIG 8

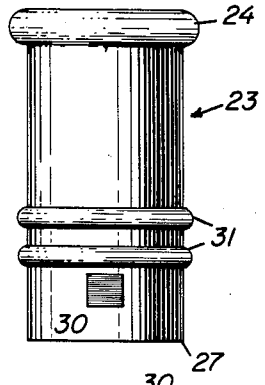



FIG 9

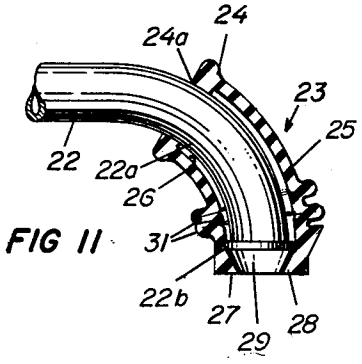



FIG 11

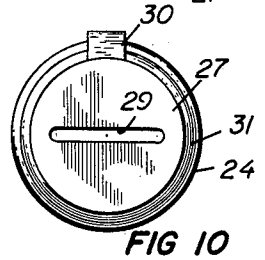



FIG 10

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3,129,894

# COMBINED NOZZLE AND GUARD FOR FAUCET SPOUTS

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3 Claims. (Cl. 239—602)

My invention relates to a combined nozzle and guard attachment for faucet spouts, and is a continuation-in-part of my application Ser. No. 56,947, filed September 19, 1960 (now abandoned).

Briefly and generally stated, the invention contemplates a device as characterized which will be frictionally held in different positions on a faucet spout to permit substantially free or variably restrictive flow therefrom; and which also constitutes cushion for the spout outlet so that glassware or dinnerware coming in contact therewith will not be chipped or broken.

The invention also aims to provide a device for the purpose specified that is inexpensive, long lived, easy to apply to or adjust on a faucet spout, and which is highly efficient in practical use.

The invention also contemplates a device as characterized that involves a gripping element-providing inner end which can always be maintained on a horizontal faucet portion and which has a guard and nozzle-providing outer end which is relatively adjustable to different flow-permitting positions without requiring any corresponding adjustment of the gripping ring-providing inner end.

Various other objects and advantages of the device will be readily understood and appreciated as the description of the now preferred and illustrated example of my development proceeds. However, since the invention is susceptible of other mechanical expressions within the spirit and scope of the subject matter claimed hereinafter, the disclosures of the accompanying drawing are to be taken as illustrative rather than limitative.

In the drawing, wherein the same reference characters have been used to designate the same parts wherever they appear in the several views—

FIG. 1 is an elevational view partly broken and partly in section showing the device in its full flow-permitting position on a faucet spout;

FIG. 2 is a bottom plan view of the device as shown in FIG. 1;

FIG. 3 is a front elevational view of the device detached;

FIG. 4 is a bottom plan view of the unit shown in FIG. 3;

FIG. 5 is a view similar to FIG. 1 but showing two limited flow-permitting positions of the attachment on a faucet spout;

FIG. 6 is a bottom plan view of the device applied as in FIG. 5;

FIG. 7 is a perspective view, partly broken and partly in section, illustrating the application of a modified form of the invention unit to a different type of faucet;

FIG. 8 is a vertical sectional view showing a free outflow permitting adjustment of the modified unit on a faucet spout;

FIG. 9 is an elevation of the modified unit detached;

FIG. 10 is an end view thereof; and

FIG. 11 is a view similar to FIG. 8 but showing the guard attachment in a different position on the spout.

Referring to the drawing by reference characters and turning to FIGS. 1–6, a conventional faucet is shown at 8, same having the control handle 9 and outlet spout 10, which latter provides the downward bend 11 and depending outlet portion 12.

Coming now to my novel combined nozzle and guard,



same is seen to comprise the elongated body 13 of elastic rubber or similar material having the annular reinforcing ring or enlargement 14 adjacent its inner end and the longitudinally spaced finger piece 15, which latter is flanged as at 15*a*.

As best indicated in FIG. 5, the body 13 provides a fluid passage extending therethrough from end to end. This fluid passage provides the tubular inlet portion 18 and the progressively restricted outlet portion 19, which latter terminates in the narrow closed ended outlet slit 16. As shown in FIGS. 4 and 6, the outlet slit 16 extends transversely of the outer end 17 of body 13.

As illustrated in FIG. 5, progressive restriction of the outlet portion 19 of the fluid passage of body 13 is effected by the opposed plane wall surfaces 20 which converge in the direction of outlet slit 16. However, said progressive passage restriction can, of course, be otherwise achieved.

The operation of the device will now be explained.

Assuming that a minor volume spray discharge is desired for such as dishwashing, the cylindrical inlet portion 18 of the body (13) provided fluid passage is worked onto the downturned and diametrically larger faucet spout portion 12 to the full line indicated in the FIG. 5 position. This can be readily accomplished by using the ring enlargement 14 for the finger grip purposes and probably also the finger piece 15.

It is to be noted from the full line indicated FIG. 5 position of body 13 on spout portion 12 that the discharge end of the spout portion 12 is disposed above the constricted outlet passage portion 16, 19 for the minor volume spray discharge mentioned. However, if an increased fluid volume discharge is desired, the body 13 is pulled further up on the spout portions 11, 12 as shown in dotted lines in FIG. 5, to cause the discharge end of spout portion 12 to force passage walls 20 outwardly and hence so spread, or open, slit 16 as to increase fluid outflow volume.

Then, when unrestricted faucet spout discharge is wanted the unit 13 is pulled further onto the spout to assume the FIG. 1 position. In this position slit 16 is forced into circular form by the faucet spout discharge end 12 but leaving, as shown, an annular depending body end (17) provided buffer portion for glassware, etc., protection, as is also, of course, the case in the indicated FIG. 5 positions. Finger piece 15, as will be appreciated, greatly facilitates movement of the device to its FIG. 1 position, as will be readily understood.

Referring to the form of invention shown in FIGS. 7–10, inclusive, numeral 20*x* indicates a different form of faucet from that shown in FIGS. 1–6. Faucet 20 differs from faucet 8 in that it has hot and cold water controls 21 (only one of which is shown) at opposite sides of the irregularly shaped discharge spout 22 which latter has the downturned discharge end 22*a* that terminates in the enlargement 22*b*.

Although combined nozzle and guard unit 13 of FIGS. 1–6 can be applied to a faucet spout such as 22 of FIG. 7, the modified nozzle and guard 23 of FIGS. 7–10 is much more suitable for application thereto as will be presently apparent.

In carrying out the form of invention of FIGS. 7–10, the combined nozzle and guard 23 has a retainer ring enlargement 24 at its inner unit end that provides the inner surface 24*a* which makes at all times a gripping engagement with spout 22 inwardly of its downturned discharge portion 22*a*, as shown in FIGS. 7 and 8.

However, as indicated in FIGS. 7 and 8, the internal diameter of the major wall portions 25 between retainer ring 24 and its thickened discharge end 28 is greater than exterior diameters of spout 22 so as to be spaced therefrom, as indicated at 26. This facilitates slipping the unit

23 over the spout and enlargement 22*b*; and also subsequent upward adjustment of the discharge end 27 to the FIG. 8 position to admit of unrestricted outflow of water through the then circularly spread outlet slot 29.

As in the FIG. 1–6 form of invention, the thickened discharge end 27 of unit 23 provides the opposed and substantially plane internal walls 28 which converge toward the outlet slot 29. This means that a sheet-like fluid spray discharge will result when the adjustment of the unit 23 on spout 22, 22*a* corresponds to that indicated in FIG. 8.

In further carrying out the invention of FIGS. 7–10, the tubular wall 25 adjacent the thickened discharge end 27 of unit 23 is moulded to provide spaced outwardly extending beading rings 31. These beading rings are concavo-convex in cross section as seen in FIG. 7, but which compress into annular outwardly projecting flanges when the discharge end 27 is adjusted upwardly to the free outflow-permitting position of FIG. 8.

As will be appreciated, very little if any adjustment of the retainer ring 24 will ever be required when the discharge end 27 of the unit is moved from the FIG. 7 to the FIG. 8 position.

Also with the FIG. 7–10 form of invention there will be considerable upward seepage of water into space 26 when the unit is in the restricted spray position of FIG. 7. This facilitates adjustment of unit end 27 to the FIG. 8 position as water is a lubricant for rubber on smooth surfaces.

The unit 23 of FIGS. 7–10 has the outwardly projecting finger piece 30 at the site of the thickened discharge end portion 27. This facilitates adjustment of the discharge end 27 from the FIG. 7 position to the FIG. 8 position and to intermediate positions, as when only a partially restricted fluid flow is desired.

From the foregoing description considered in connection with the accompanying drawing, it is believed that the advantages of my contribution to the art will be readily understood and appreciated. The device can obviously be manufactured in quantity by a single simple molding operation at low cost, and will of course have fields of utility beyond household faucet use.

Having thus described my invention, what I claim is:

1. A combined faucet guard and flow volume and character control nozzle for exterior and surrounding application to the discharge portions of faucet spouts and



comprising a body of elastic material providing a fluid passage extending therethrough at least the outer end portion of said body being longitudinally adjustable on a spout to at least an innermost and an outermost position, said outer end portion having an exterior buffer-portion which serves as a guard for the discharge end of the spout in said innermost and outermost as well as in intermediate positions of adjustment of said outlet end portion on said spout, said passage providing inlet and outlet portions with the outlet portion having a substantially restricted normally open outlet, at least the inner end of the inlet portion of said passage adapted for frictional gripping against a spout, the outlet portion of said passage embracing said spout in its innermost position of adjustment thereon whereby to spread the restricted passage outlet and admit of substantially unrestricted fluid flow therethrough, and the cross-section of said passage between its spout-gripping inner end and outlet portions being greater than exterior faucet diameter whereby to provide an annular fluid seepage-receiving space when the outlet-providing body end is in a fluid flow-restricting position on the spout.

2. The structure of claim 1 and the restricted outlet of said passage being elongated transversely of the latter, and opposed major areas of the walls of the outlet portion of said passage tapering inwardly toward the long edges of said outlet whereby the latter will be variably enlarged in intermediate positions of the outlet end portion of said body on said spout.

3. The structure of claim 1, and said body providing at least one annular weakened area capable of being pressed outwardly to provide an exterior circumferential flange when the outer end of the body is adjusted inwardly on a spout while the spout gripping inner end remains stationary.

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